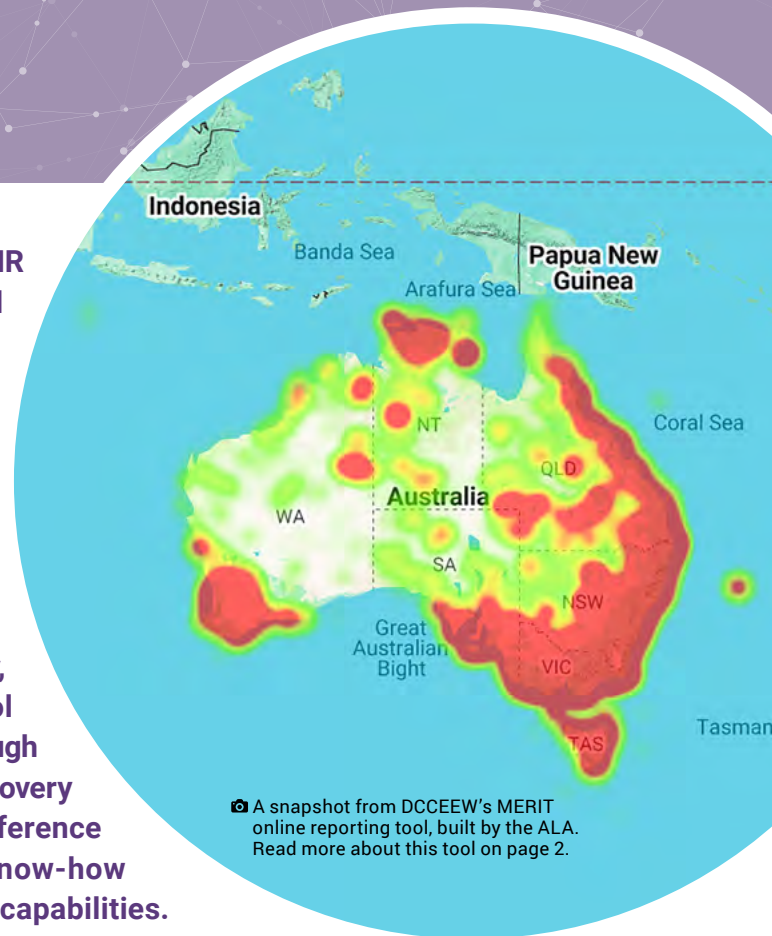


# Powering Australia's biodiversity data capabilities

Trusted national biodiversity data available under FAIR data principles is fundamental to supporting applied and foundation science and major biodiversity conservation and management programs. Data provides the evidence base for understanding, monitoring, planning, and predicting. In addition to its core biodiversity data products and services, ALA's capability, infrastructure, data, and people underpin non-core products and services built in collaboration with our partners. From building and managing the Department of Climate Change, Energy, the Environment and Water's online reporting tool MERIT, harmonising Australia's seed bank data through the Australian Seedbank Portal and improving discovery and access to Australia's biodiversity genomic reference data Australia Reference Genome Atlas, ALA know-how underpins much of the nation's biodiversity data capabilities.



## ALA's unique capability

As Australia's national biodiversity data infrastructure, the ALA has established a team of biodiversity data informatics, software engineering, IT systems, and biodiversity domain specialists with extensive expertise in building data infrastructure to support ALA and partner needs. These systems are built by leveraging international biodiversity data standards, such as those developed by the international Taxonomic Data Working Group (TDWG), **ensuring data can be made nationally and internationally interoperable**. ALA's international partnerships with groups, including the Global Biodiversity Information Facility ([www.gbif.org.au](http://www.gbif.org.au)), ensure that our data architecture and infrastructure developments align with the international best practices.

## Understanding biodiversity through genomics – Australian Reference Genome Atlas

The genomic data of Australia's native species can help us better understand how they have adapted to our unique continent. **Genomic data may be used to develop more resilient crops or livestock species or to make plans to repopulate areas after bushfires, floods or other environmental disasters.** The Australian Reference Genome Atlas (ARGA) is an indexing service for aggregating, discovering, filtering, and accessing complex life science data. ARGA uses the ALA's contextual metadata, such as taxonomic descriptors, species occurrence records, and ecotype layering, to enable researchers to filter and search the indexed genomics data. ARGA is powered by the ALA in collaboration with Bioplatforms Australia and the Australian BioCommons, with co-investment from the Australian Research Data Commons.

Learn more: [arga.org.au](http://arga.org.au)



» Hooded Plover (*Thinornis cucullatus*)  
 iNaturalist Thirs Silence Photography.



>> Verco's Nudibranch (*Tambja verconis*)  
© Rafi Amar CC BY NC

## Managing sensitive species data – Restricted Access Species Data Service

Data about biodiversity is integral for research, conservation planning and policy development. But, knowing the precise location of some species can put them at risk of being disturbed, poached, or contracting disease. Conversely, not sharing the locations can threaten species because authorities don't know they occur in places where development activities are planned. In other cases, incorrect information about invasive species can threaten our external trade relations or pose security threats from people trespassing to hunt animals like feral pigs illegally. The ALA's Restricted Access Species Data (**RASD**) provides **a centralised way for organisations to request restricted species records from various data holders, including museums, non-government organisations and state agencies**. The ALA has designed and built it with a consortium of state and commonwealth government, and biodiversity data infrastructure partners.

Learn more: [service.rasd.org.au](http://service.rasd.org.au)

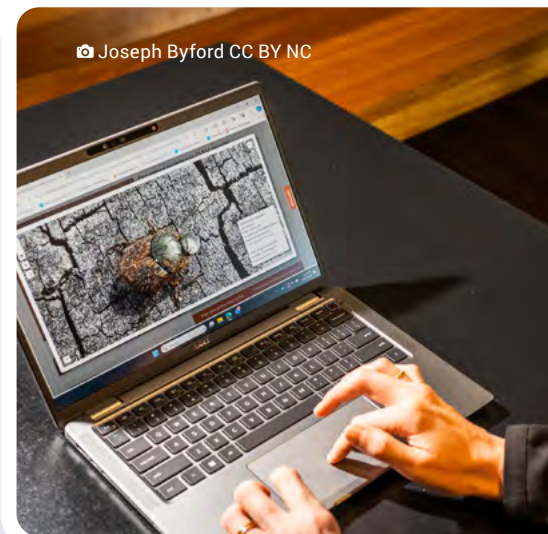
... The ALA is the trusted platform for open source biodiversity data and our virtual seed bank provides a valuable resource for seed collectors, researchers, and conservation agencies about the ex situ collections that can support plant conservation and research activities – Kathryn Eyles, Australian Seed Bank Partnership

## A one-stop shop for Australia's herbarium data – the Australian Virtual Herbarium



Australian and New Zealand herbaria house over eight million plants, algae, and fungi specimens. The Australasian Virtual Herbarium (AVH) is an online resource for the plant specimen data held in Australian and New Zealand herbaria that is regularly updated. **These specimens provide a permanent record of the occurrence of a species at a particular place and time**. They are the primary resource for research on the classification and distribution of Australasian flora. The AVH is a collaborative project developed under the auspices of the Council of Heads of Australasian Herbaria powered by ALA biodiversity data infrastructure.

Learn more: [avh.chah.org.au](http://avh.chah.org.au)



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## Harmonising Australia's seed bank data – Australian Seedbank Portal

Managed by the Australian Seed Bank Partnership, and hosted by the Atlas of Living Australia, the Australian Virtual Seedbank provides open-access information about conservation seed collections and the germination protocols developed by Australian seed banks.

**The portal combines seed data, germination insights, images, plant trait information, and genomic data for a seamless user experience.** Seed curators, collectors, research community members, students, industry, and government are all using this amazing resource to share information and support the conservation of native plant biodiversity. Our ALA team collaborates closely with the Australian Seed Bank Partnership and their members to update the portal annually, ensuring it remains a cutting-edge digital data platform.

Learn more: [seedbank.ala.org.au](http://seedbank.ala.org.au)



Australian Seed Bank Partnership

## Monitoring biodiversity investments & outcomes – Monitoring Evaluation Reporting and Improvement Tool

Monitoring outcomes from Australian Government-funded national resource management grant projects is difficult. The ALA-built Monitoring Evaluation Reporting and Improvement Tool (MERIT) is the Department of Climate Change, Energy, the Environment and Water's online reporting tool to do just that. **The system aggregates project data to tell a whole-of-program story** about the impact of natural resource management investments on preserving Australia's unique biodiversity.

Learn more: [fieldcapture.ala.org.au](http://fieldcapture.ala.org.au)



For more information, visit: [ala.org.au](http://ala.org.au) or contact [support@ala.org.au](mailto:support@ala.org.au)



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